As filed with the Securities and Exchange Commission on August 12, 2024

Registration Statement No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM S-3
REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

BONE BIOLOGICS CORPORATION
(Exact name of registrant as specified in its charter)

Delaware	**42-1743430**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)

2 Burlington Woods Drive, Suite 100
Burlington, MA 01803
(781) 552-4452
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Jeffrey Frelick
Chief Executive Officer
Bone Biologics Corporation
2 Burlington Woods Drive, Suite 100
Burlington, MA 01803
(781) 552-4452
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Alexander R. McClean, Esq.
Harter Secrest & Emery LLP
1600 Bausch & Lomb Place
Rochester, New York 14604
(585) 232-6500

Approximate date of commencement of proposed sale to the public: From time to time after the effective date of this registration statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box: ☐

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box: ☒

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box. ☐

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
		Emerging growth company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided to Section 7(a)(2)(B) of the Securities Act. ☐

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

The information in this preliminary prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, dated August 12, 2024

PROSPECTUS

BONE BIOLOGICS CORPORATION

1,617,919 Shares of Common Stock Offered by the Selling Stockholders

This prospectus relates to the public offering of up to 1,617,919 shares of common stock, par value $0.001 per share ("common stock"), of Bone Biologics Corporation by the selling stockholders. Of these shares, 781,251 shares are issuable upon the exercise of outstanding warrants exercisable for one share of common stock at an exercise price of $2.00 per share and expiring on August 2, 2029 (the "five-year warrants"); 781,251 shares are issuable upon the exercise of outstanding warrants exercisable for one share of common stock at an exercise price of $2.00 per share and expiring on February 2, 2026 (the "eighteen-month warrants"); 46,875 shares are issuable upon the exercise of outstanding warrants exercisable for one share of common stock at an exercise price of $3.35 per share and expiring on August 2, 2029; and 8,542 shares are issuable upon the exercise of outstanding warrants exercisable for one share of common stock at an exercise price of $6.40 per share and expiring on November 16, 2028 (collectively the "warrants").

The selling stockholders may sell common stock from time to time in the principal market on which the stock is traded at the prevailing market price or in negotiated transactions.

We will not receive any of the proceeds from the sale of common stock by the selling stockholders. We will pay the expenses of registering these shares.

Our common stock is listed on the Nasdaq Capital Market ("Nasdaq") under the symbol "BBLG." The closing price of our common stock on Nasdaq on August 9, 2024 was $1.69 per share.

Investing in our securities involves a high degree of risk. See the section entitled "Risk Factors" beginning on page 8 of this prospectus and in the documents incorporated by reference into this prospectus for a discussion of risks that should be considered in connection with an investment in our securities.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is , 2024.

TABLE OF CONTENTS

ABOUT THIS PROSPECTUS

We incorporate by reference important information into this prospectus. You may obtain the information incorporated by reference without charge by following the instructions under "Where You Can Find More Information." You should carefully read this prospectus as well as additional information described under "Information Incorporated by Reference," before deciding to invest in our securities.

We have not authorized anyone to provide you with additional information or information different from that contained or incorporated by reference in this prospectus filed with the Securities and Exchange Commission (the "SEC"). We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We are offering to sell, and seeking offers to buy, our securities only in jurisdictions where offers and sales are permitted. The information contained in this prospectus, or any document incorporated by reference in this prospectus, is accurate only as of the date of those respective documents, regardless of the time of delivery of this prospectus or any sale of our securities. Our business, financial condition, results of operations and prospects may have changed since that date.

This prospectus contains estimates and other statistical data made by independent parties and by us relating to market size and growth and other data about our industry. We obtained the industry and market data in this prospectus from our own research as well as from industry and general publications, surveys and studies conducted by third parties. This data involves a number of assumptions and limitations and contains projections and estimates of the future performance of the industries in which we operate that are subject to a high degree of uncertainty, including those discussed in "Risk Factors." We caution you not to give undue weight to such projections, assumptions and estimates. Further, industry and general publications, studies and surveys generally state that they have been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. While we believe that these publications, studies and surveys are reliable, we have not independently verified the data contained in them. In addition, while we believe that the results and estimates from our internal research are reliable, such results and estimates have not been verified by any independent source.

We have not done anything that would permit this offering or the possession or distribution of this prospectus in any jurisdiction where action for those purposes is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the securities and the distribution of this prospectus outside of the United States.

CAUTIONARY NOTE CONCERNING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference herein contain forward-looking statements that involve risks and uncertainties. You should not place undue reliance on these forward-looking statements. All statements other than statements of historical fact contained in this prospectus and the documents incorporated by reference herein contain are forward-looking statements. The forward-looking statements in this prospectus and the documents incorporated by reference herein are only predictions. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our business, financial condition and results of operations. In some cases, you can identify these forward-looking statements by terms such as "anticipate," "believe," "continue," "could," "depend," "estimate," "expect," "intend," "may," "ongoing," "plan," "potential," "predict," "project," "should," "will," "would" or the negative of those terms or other similar expressions, although not all forward-looking statements contain those words. We have based these forward-looking statements on our current expectations and projections about future events and trends that we believe may affect our financial condition, results of operations, strategy, short- and long-term business operations and objectives, and financial needs. These forward-looking statements include, but are not limited to, statements concerning the following:

- our ability to maintain compliance with the Nasdaq listing standards and remain listed on Nasdaq;
- our projected financial position and estimated cash burn rate;
- our estimates regarding expenses, future revenues and capital requirements;
- our ability to continue as a going concern;
- our need to raise substantial additional capital to fund our operations;
- the success, cost and timing of our clinical trials;
- our dependence on third parties in the conduct of our clinical trials;
- our ability to obtain the necessary regulatory approvals to market and commercialize our product candidates;
- the ultimate impact of health pandemics or epidemics on our business, our clinical trials, our research programs, healthcare systems or the global economy as a whole;
- the potential that results of preclinical and clinical trials indicate our current product candidate or any future product candidates we may seek to develop are unsafe or ineffective;
- the results of market research conducted by us or others;
- our ability to obtain and maintain intellectual property protection for our current product candidates;
- our ability to protect our intellectual property rights and the potential for us to incur substantial costs from lawsuits to enforce or protect our intellectual property rights;
- the possibility that a third party may claim we or our third-party licensors have infringed, misappropriated or otherwise violated their intellectual property rights and that we may incur substantial costs and be required to devote substantial time defending against claims against us;
- our reliance on third-party suppliers and manufacturers;
- the success of competing therapies and products that are or become available;
- our ability to expand our organization to accommodate potential growth and our ability to retain and attract key personnel;
- the potential for us to incur substantial costs resulting from product liability lawsuits against us and the potential for these product liability lawsuits to cause us to limit our commercialization of our product candidate;
- market acceptance of our product candidate, the size and growth of the potential markets for our current product candidate and any future product candidates we may seek to develop, and our ability to serve those markets;
- the successful development of our commercialization capabilities, including sales and marketing capabilities;
- our expectation regarding the number of shares outstanding after this offering;
- our intention to use the net proceeds of this offering to fund clinical trials, maintain and extend our patent portfolio, and for working capital and other general corporate purposes; and
- pending the intended uses described herein, our intention to invest the net proceeds of this offering in short-term, investment grade, interest-bearing securities.

These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including the successful development and commercialization of our product candidates, market acceptance of our product candidates, our financial performance, including our ability to fund operations, our ability to regain and maintain compliance with Nasdaq's continued listing requirements, regulatory approval and regulation of our product candidates, our expected use of proceeds from this offering, and other factors and risks identified from time to time in our filings with the SEC, including this prospectus and those described in "Risk Factors." Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this

prospectus may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements.

You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances reflected in the forward-looking statements will be achieved or occur. Moreover, except as required by law, neither we nor any other person assumes responsibility for the accuracy and completeness of the forward-looking statements. We undertake no obligation to update publicly any forward-looking statements for any reason after the date of this prospectus to conform these statements to actual results or to changes in our expectations.

You should read this prospectus and the documents that we reference in this prospectus and have filed with the SEC as exhibits to the registration statement of which this prospectus is a part with the understanding that our actual future results, levels of activity, performance and events and circumstances may be materially different from what we expect.

PROSPECTUS SUMMARY

The following summary highlights selected information contained or incorporated by reference in this prospectus and does not contain all of the information that may be important to you and your investment decision. Before investing in our securities, you should carefully read this entire prospectus, including our consolidated financial statements and the related notes and other documents incorporated by reference herein, as well as the information under the caption "Risk Factors" herein and under similar headings in the other documents that are incorporated by reference into this prospectus including documents that are filed after the date hereof. Some of the statements in this prospectus constitute forward-looking statements that involve risks and uncertainties. See "Cautionary Note Concerning Forward-Looking Statements." In this prospectus, unless context requires otherwise, references to "we," "us," "our," "BBLG" "Bone Biologics," or the "Company" refer to Bone Biologics Corporation and its subsidiary on a consolidated basis.

Company Overview

We are a medical device company that is currently focused on bone regeneration in spinal fusion using the recombinant human protein known as NELL-1. NELL-1 in combination with DBM, demineralized bone matrix, is an osteopromotive recombinant protein that provides target specific control over bone regeneration. The NELL-1 technology platform has been licensed exclusively for worldwide applications to us through a technology transfer from the UCLA Technology Development Group on behalf of UC Regents ("UCLA TDG"). UCLA TDG and the Company received guidance from the Food and Drug Administration ("FDA") that NELL-1/DBM will be classified as a device/drug combination product that will require an FDA-approved pre-market approval application ("PMA") before it can be commercialized in the United States.

We were founded by University of California professors in collaboration with an Osaka University professor and a University of Southern California surgeon in 2004 as a privately-held company with proprietary, patented technology that has been validated in sheep and non-human primate models to facilitate bone growth. We believe our platform technology has application in delivering improved outcomes in the surgical specialties of spinal, orthopedic, general orthopedic, plastic reconstruction, neurosurgery, interventional radiology, and sports medicine. Lead product development and clinical studies are targeted on spinal fusion surgery, one of the larger segments in the orthopedic market.

We are a development stage entity. The production and marketing of our products and ongoing research and development activities are subject to extensive regulation by numerous governmental authorities in the United States. Prior to marketing in the United States, any combination product developed by us must undergo rigorous preclinical (animal) and clinical (human) testing and an extensive regulatory approval process implemented by the FDA under the Federal Food, Drug, and Cosmetic Act. There can be no assurance that we will not encounter problems in clinical trials that will cause us or the FDA to delay or suspend the clinical trials.

Our success will depend in part on our ability to obtain patents and product license rights, maintain trade secrets, and operate without infringing on the proprietary rights of others, both in the United States and other countries. There can be no assurance that patents issued to or licensed by us will not be challenged, invalidated, rendered unenforceable, or circumvented, or that the rights granted thereunder will provide proprietary protection or competitive advantages to us.

On June 20, 2024, we announced that the first patient had been treated in the multicenter, prospective, randomized pilot clinical study of the Company's NB1 bone graft device. NB1 is NELL-1 protein combined with demineralized bone matrix (DBM) to provide rapid, specific and guided control over bone regeneration.

This pilot clinical study will evaluate NB1 in 30 adult subjects who undergo transforaminal lumbar interbody fusion (TLIF) to treat degenerative disc disease (DDD) and will evaluate safety and effectiveness, fusion success, pain, function improvement and adverse events. To be enrolled in the study, patients must have DDD at one level from L2-S1 and may also have up to Grade 1 spondylolisthesis or Grade 1 retrolisthesis at the involved level. These two patients were treated in Australia. The study design was previously reviewed and agreed upon by the U.S. Food and Drug Administration's Division of Orthopedic Devices in a Pre-submission to support progression to a pivotal clinical trial in the United States.

Product Candidates

We have developed a stand-alone platform technology through significant laboratory and small and large animal research over more than ten years to generate the current applications across broad fields of use. The platform technology is our recombinant human protein, known as NELL-1, a proprietary skeletal specific growth factor which is a bone void filler. NELL-1 provides regulation over skeletal tissue formation and stem cell differentiation during bone regeneration. We obtained the platform

technology pursuant to an exclusive license agreement with UCLA TDG which grants us exclusive rights to develop and commercialize NELL-1 for spinal fusion by local administration, osteoporosis and trauma applications. A major challenge associated with orthopedic surgery is effective bone regeneration, including challenges related to rapid, uncontrolled bone growth which can cause unsound structure; cysts and less dense bone formation; unwanted bone formation, and swelling; and intense inflammatory response to current bone regeneration compounds. We believe NELL-1 will address these unmet clinical challenges for effective bone regeneration, especially in hard healers.

We are currently focused on bone regeneration in lumbar spinal fusion, in keeping with our exclusive license agreement, using NELL-1 in combination with DBM, a demineralized bone matrix from Musculoskeletal Transplant Foundation ("MTF"). The NELL-1/DBM medical device is a combination product which is an osteopromotive recombinant protein that provides target specific control over bone regeneration. Leveraging the resources of investors and strategic partners, we have successfully surpassed four critical milestones:

- Demonstrating a successful small laboratory scale pilot run for the manufacturing of the recombinant NELL-1 protein in Chinese hamster ovary cells;
- Validation of protein dosing and efficacy in established large animal sheep models pilot study;
- Completed pivotal animal study; and
- Initiated a first-in-man pilot clinical trial in Australia.

Our lead product candidate is expected to be purified NELL-1 mixed with 510(k) cleared DBM Demineralized Bone Putty recommended for use in conjunction with applicable hardware consistent with the indication. The NELL-1/DBM Fusion Device, NB1, will be comprised of a single dose vial of NELL-1 recombinant protein freeze dried onto DBM. A vial of NELL-1/DBM will be sold in a convenience kit with a diluent and a syringe of 510(k) cleared demineralized bone ("DBM Putty") produced by MTF. A delivery device will allow the surgeon to mix the reconstituted NELL-1 with the appropriate quantity of DBM Putty just prior to implantation.

The NELL-1/DBM Fusion Device, NB1, is intended for use in lumbar spinal fusion and may have a variety of other spine and orthopedic applications. While the product is initially targeted at the lumbar spine fusion market, in keeping with our exclusive license agreement, we believe NELL-1's novel set of characteristics, target specific mechanism of action, efficacy, safety and affordability position the product well for application in a variety of procedures including:

Spine Implants. The global bone graft substitute market presents a $3 billion market opportunity. While use of the patient's own bone, also referred to as autograft, to enhance fusion of vertebral segments remains the optimal use for this type of treatment, complications associated with use of autograft bone including pain, increased surgical time and infection limit its use.

Non-Union Trauma Cases. While the majority of fractures heal without the need for osteosynthetic products, bone substitutes are used in complicated breaks where the bone does not mend naturally. Globally an $8 billion market opportunity, management believes that NELL-1 technology is expected to perform as well as other growth factors in this market.

Osteoporosis. Globally an $11.2 billion market opportunity, the medical need to find a solution to counter a decrease in bone mass and density seen in women most frequently after menopause or a similar effect on astronauts in microgravity environments for an extended period is a major medical challenge. The systemic use of NELL-1 to stimulate bone regeneration throughout the body thereby increasing bone density could have a very significant impact on the treatment of osteoporosis.

UCLA's initial research was funded with approximately $18 million in resources from UCLA TDG and government grants. Since licensing the exclusive worldwide intellectual property rights from UCLA TDG, our continued development has been funded through capital raises. Our research and development expenses for the years ended December 31, 2023 and 2022 were $6,907,824 and $1,579,298, respectively. We anticipate that we will require approximately $5 million to complete first-in-man studies, and an estimated additional $24 million in scientific expenses to achieve FDA approval, if possible, for a spine interbody fusion indication. These amounts are estimates based on data currently available to us, and are subject to many factors including the various risk factors discussed in the section "*Risk Factors*" included in our Form 10-K for the fiscal year ended December 31, 2023 (the "2023 Form 10-K"), which is incorporated herein by reference.

NELL-1's powerful specific bone and cartilage forming properties are derived from the ability of NELL-1 to only target cells that exhibit an activated "master switch" to develop into bone or cartilage. NELL-1 is a function specific recombinant human protein that has been proven in laboratory bench models to recapitulate normal human growth and development to provide control over bone and cartilage regeneration.

NELL-1 was isolated in 1996, and the first NELL-1 patent on bone regeneration was filed in 1999. Subsequent patents and continuations in part describing NELL-1 manufacturing, delivery, and cartilage regeneration were filed to further strengthen the patent portfolio.

We have completed two preclinical sheep studies that demonstrated our recombinant NELL-1 ("rhNELL-1") growth factor effectively promotes bone formation in a phylogenetically advanced spine model. In addition, rhNELL-1 was shown to be well tolerated and there were no findings of inflammation. Our pivotal sheep study evaluated the effect of rhNELL-1 combined with DBM on lumbar interbody arthrodesis in an adult ovine model and demonstrated a 37.5% increased frequency of fusion at 26 weeks from the control.

Our first-in-man pilot clinical study commenced year-end 2023 and will evaluate the safety and effectiveness of NB1 in adult subjects with spinal degenerative disc disease at one level from L2-S1, who may also have up to Grade 1 spondylolisthesis or Grade 1 retrolisthesis at the involved level who undergo transforaminal lumbar interbody fusion. The multi-center, prospective, randomized trial consists of 30 patients in Australia, with the primary end-point being fusion success at 12 months and change from baseline in the Oswestry Disability Index pain score. We expect completion of the trial 12 months following enrollment of the 30^{th} patient. We intend to use the pilot clinical trial data from Australia to enable a future larger U.S. pivotal clinical study, prior to submission of a PMA to the FDA. In June 2024, we treated the first two patients in our randomized pilot study of our NB1 bone graft device.

Our Business Strategy

Our business plan is to develop our target-specific growth factor for bone regeneration, based on preclinical and clinical data that has demonstrated increases in the quantity and quality of bone, and a strong safety profile. Our initial focus on lumbar spinal fusion entails advancing our target-specific growth factor through clinical studies to achieve FDA approval with comparable efficacy and safety to the gold standard for spine fusion (autografts). Continued capital funding is critical to facilitate the development of our Nell-1 technology through the clinical regulatory path.

Intellectual Property Risks

Our patent portfolio currently consists of five patents which expire between 2024 and 2033. We intend to expand our portfolio through composition of matter, methods of use and methods of production patent applications, as the opportunity arises through the development of our platform technology. Our success will depend in part on our ability to obtain patents and product license rights, maintain trade secrets, and operate without infringing on the proprietary rights of others, both in the United States and other countries. There can be no assurance that patents issued to or licensed by us will not be challenged, invalidated, rendered unenforceable, or circumvented, or that the rights granted thereunder will provide proprietary protection or competitive advantages to us. The patent positions of medical device companies are uncertain and involve complex legal and factual questions. We may incur significant expenses in protecting our intellectual property and defending or assessing claims with respect to intellectual property owned by others. See "Risk Factors" on page 7 and other information included or incorporated by reference in this prospectus for a discussion of intellectual property risks to consider carefully before deciding to invest in our securities.

Our Management Team

We have two full-time employees. Jeffrey Frelick has served as our President and Chief Executive Officer since June 2019 and brings more than 25 years of leadership, operational, and investment experience in the life science industry. Deina Walsh has served as our Chief Financial Officer since November 2014.

Mr. Frelick previously served as our Chief Operating Officer from 2015 to June 2019. Prior to this Mr. Frelick spent 15 years on Wall Street as a sell-side analyst following the med-tech industry at investment banks Canaccord Genuity, ThinkEquity and Lazard. He also previously worked at Boston Biomedical Consultants where he provided strategic planning assistance, market research data and due diligence for diagnostic companies. He began his career at Becton Dickinson in sales and sales management positions after gaining technical experience as a laboratory technologist with Clinical Pathology Facility. Mr. Frelick received a B.S. in Biology from University of Pittsburgh and an M.B.A. from Suffolk University's Sawyer Business School.

Ms. Walsh is a certified public accountant and was owner/founder of DHW CPA, PLLC, a Public Company Accounting Oversight Board (PCAOB) registered firm. Prior to forming her firm, Ms. Walsh spent 13 years at a public accounting firm where as a partner she was actively responsible for leading firm audit engagements of publicly held entities in accordance with PCAOB standards and compliance with SEC regulations, including internal control requirements under Section 404 of the Sarbanes-Oxley Act. Ms. Walsh had a global client base including entities throughout the United States, Canada and China. These entities encompass a diverse range of industries including manufacturing, wholesale, life sciences, pharmaceuticals, and technology. Her experience includes work with start-up companies and well-established operating entities. She has assisted many entities seeking debt and equity capital. Areas of specialty include mergers, acquisitions, reverse mergers, consolidations, complex equity structures, foreign currency translations and revenue recognition complexities. Ms. Walsh has an Associates of Science Degree in Business Administration from Monroe Community College and a Bachelor of Science Degree in Accounting from the State University of New York at Brockport.

We have relied and plan on continuing to rely on independent organizations, advisors and consultants to perform certain services for us, including handling substantially all aspects of regulatory approval, clinical management, manufacturing, marketing, and sales. Such services may not always be available to us on a timely basis or at costs that we can afford. We also have engaged and plan to continue to engage regulatory consultants to advise us on our dealings with the FDA and other foreign regulatory authorities and have been and will be required to retain additional consultants and employees.

Our future performance will depend in part on our ability to successfully integrate newly hired officers into our management team, engage and retain consultants, and to develop an effective working relationship with our management and consultants. Losing key personnel or failing to recruit necessary additional personnel would impede our ability to attain our development objectives. Losing key personnel or failing to recruit necessary additional personnel would impede our ability to attain our development objectives. See “Risk Factors” on page 7 and other information included or incorporated by reference in this prospectus for a discussion of management risks to consider carefully before deciding to invest in our securities.

Recent Developments

August 2024 Warrant Inducement Transaction

On August 1, 2024, the Company entered into warrant inducement letter agreements with holders of the Company’s warrants to purchase 781,251 shares of common stock issued on March 6, 2024 (the “March 2024 Warrants”). The Company offered, to each warrant holder who exercised the March 2024 Warrants, the issuance of two additional unregistered common share purchase warrants for each March 2024 Warrant exercised (each, an “Incentive Warrant”). The Incentive Warrants entitle the holders to purchase an aggregate of 781,251 shares of common stock of the Company for a period of 18 months from the date of issuance, and warrants exercisable into an aggregate of 781,251 shares of common stock of the Company for a period of five years from the date of issuance, exercisable immediately, at a price of $2.00 per share. On August 2, 2024, the Company completed the warrant inducement transaction and received net proceeds to the Company of approximately $1.7 million.

In addition, the Company issued warrants to purchase up to an aggregate of 46,875 shares of common stock to the placement agent as compensation. The warrants issued to the placement agent have substantially the same terms and conditions as the five-year Incentive Warrants, except the placement agent warrants have an exercise price of $3.35 per share.

Due to certain beneficial ownership limitations set forth in the March 2024 Warrants, the Company issued the number of shares that would not cause a holder to exceed such beneficial ownership limitation and agreed to hold such balance of shares of common stock in abeyance. Of the March 2024 Warrants exercised, an aggregate of 560,251 shares of common stock were held in abeyance. The abeyance shares will be held until notice is received by the holder that the shares of common stock may be issued in compliance with such beneficial ownership limitations. Until such time, the abeyance shares are evidenced through the holder's existing warrants and will continue to be included in the Company's table of outstanding warrants. The abeyance shares are not considered issued or outstanding in our consolidated balance sheets.

As of August 9, 2024, 264,938 Abeyance Shares were released and issued.

Going Concern

We have a history of operating losses since inception and expect to incur additional near-term losses. As discussed further in "Management's Discussion and Analysis - Liquidity and Capital Resources," included in the 2023 Form 10-K, which is incorporated herein by reference, our auditor has included a "going concern" explanatory paragraph in its report on our consolidated financial statements for the fiscal year ended December 31, 2023, expressing substantial doubt about our ability to continue as an ongoing business for the next twelve months. Our consolidated financial statements do not include any adjustments that may result from the outcome of this uncertainty. If we cannot secure the financing needed to continue as a viable business, our shareholders may lose some or all of their investment in us.

Corporate Information

We were incorporated under the laws of the State of Delaware on October 18, 2007 as AFH Acquisition X, Inc. Pursuant to a Merger Agreement, dated September 19, 2014, by and among the Company, its wholly-owned subsidiary, Bone Biologics Acquisition Corp., a Delaware corporation ("Merger Sub"), and Bone Biologics, Inc., Merger Sub merged with and into Bone Biologics Inc., with Bone Biologics Inc. remaining as the surviving corporation in the merger. Upon the consummation of the merger, the separate existence of Merger Sub ceased. On September 22, 2014, the Company officially changed its name to "Bone Biologics Corporation" to more accurately reflect the nature of its business and Bone Biologics, Inc. became a wholly owned subsidiary of the Company. Bone Biologics, Inc. was incorporated in California on September 9, 2004.

Our principal executive offices are located at 2 Burlington Woods Drive, Suite 100, Burlington MA 01803 and our telephone number is (781) 552-4452. Our website address is www.bonebiologics.com. The information contained on our website is not incorporated by reference into this prospectus, and you should not consider any information contained on, or that can be accessed through, our website as part of this prospectus or in deciding whether to invest in our securities.

THE OFFERING

Issuer:	Bone Biologics Corporation.
Common stock being offered by us:	1,617,919 shares upon exercise of the warrants.
Common stock outstanding prior to this offering:	1,801,427 shares.
Common stock to be outstanding after this offering:	3,419,346 shares (assuming full exercise of the warrants for cash).
Use of proceeds:	We will not receive any of the proceeds from the sale of common stock by the selling stockholders. See "Use of Proceeds."
Nasdaq trading symbol:	Our common stock is listed on the Nasdaq Capital Market under the symbol "BBLG."
Risk factors:	The securities offered by this prospectus are speculative and involve a high degree of risk. **Investors purchasing securities should not purchase the securities unless they can afford the loss of their entire investment. See "Risk Factors" beginning on page 7**

The discussion above is based on 1,801,427 shares of our common stock outstanding as of August 9, 2024, and excludes the following:

- 74,151 shares of common stock issuable upon exercise of stock options outstanding at a weighted average exercise price of $107.65 per share.
- 540,023 shares of common stock issuable upon exercise of outstanding common stock warrants with a weighted average exercise price of $48.45 per share.
- 629,489 shares of common stock reserved for future grants pursuant to the Bone Biologics Corporation 2015 Equity Incentive Plan.
- 1,562,502 shares of common stock issuable upon exercise of the five-year and eighteen-month warrants.
- 46,875 shares of common stock issuable upon exercise of the placement agent warrants issued to the placement agent or its designees as compensation in connection with the inducement transaction.

RISK FACTORS

Investing in our securities involves significant risks. Before you decide whether to purchase any of our securities, you should carefully consider the risks and uncertainties described below and elsewhere in the prospectus and set forth in Part I, Item 1A under the heading "Risk Factors" included in our most recent Annual Report on Form 10-K and in other reports we file with the SEC pursuant to the Securities Exchange Act of 1934, as amended (the "Exchange Act"), which are incorporated by reference into this prospectus. For more information, please see "Incorporation of Certain Information by Reference" and "Where You Can Find More Information."

The risks and uncertainties described in any documents incorporated by reference herein are not the only ones facing us. Additional risks and uncertainties that we do not presently know about or that we currently believe are not material may also adversely affect our business. If any of the risks and uncertainties described in this prospectus or the documents incorporated by reference herein actually occur, our business, financial condition, results of operations and prospects could be adversely affected in a material way. The occurrence of any of these risks may cause you to lose all or part of your investment in the offered securities.

Because the shares of common stock that are being registered in this prospectus represent a substantial percentage of our outstanding common stock, the sale of such securities could cause the market price of our common stock to decline significantly.

This prospectus relates to the offer and sale from time to time by the selling stockholders of up to 1,617,919 shares of common stock issuable by us upon exercise of the warrants. The number of shares of common stock that the selling stockholders can sell into the public markets pursuant to this prospectus represents a significant amount of our outstanding shares of common stock. As of August 9, 2024, there were 1,801,427 shares of common stock outstanding. If all shares being registered hereby were sold, it would comprise approximately 90% of our total shares of common stock outstanding. Given the substantial number of shares of common stock registered pursuant to this prospectus, the sale of common stock by the selling stockholders, or the public perception that such sales could occur, or that the selling stockholders intend to sell common stock, could have an adverse impact on the market price of our common stock, even if there is no relationship between such sales and the performance of our business.

USE OF PROCEEDS

This prospectus relates to shares of our common stock that may be offered and sold from time to time by the selling stockholders. We will not receive any of the proceeds resulting from the sale of common stock by the selling stockholders.

However, we will receive gross proceeds of approximately $3,336,704 from the cash exercise of the warrants by the selling stockholders, if any. We intend to use such proceeds to fund clinical trials, maintain and extend our patent portfolio, and for working capital and general corporate purposes. There is no assurance that the holders of the warrants will elect to exercise any or all of the warrants. The exercise prices of the warrants offered hereby are $2.00, $3.35, and $6.40 per share. We believe the likelihood that warrant holders will exercise their warrants, and therefore the amount of cash proceeds that we would receive, is highly dependent upon the trading price of our common stock. The closing price of our common stock on Nasdaq on August 9, 2024 was $1.69 per share. If the trading price for our common stock is less than the exercise price of the warrants, we believe holders of the warrants will be unlikely to exercise their warrants for cash. To the extent that shares of common stock are issued pursuant to the exercise of warrants on a "cashless basis," the amount of cash we would receive from the exercise of the warrants will decrease.

SELLING STOCKHOLDERS

This prospectus relates to the offering by the selling stockholders of up to 1,617,919 shares of common stock, which are issuable upon exercise of outstanding warrants.

The following table sets forth, based on information provided to us by the selling stockholders or known to us, the name of each selling stockholder, the number of shares offered by each selling stockholder, the number of shares of our common stock beneficially owned by the selling stockholder before this offering, and the number and percentage of shares of our common stock beneficially owned by the selling stockholder after the offering. The number of shares owned are those beneficially owned, as determined under the rules of the SEC, and the information is not necessarily indicative of beneficial ownership for any other purpose. Under these rules, beneficial ownership includes any shares of common stock as to which a person has sole or shared voting power or investment power and any shares of common stock which the person has the right to acquire within 60 days through the exercise of any option, warrant or right, through conversion of any security or pursuant to the automatic termination of a power of attorney or revocation of a trust, discretionary account or similar arrangement. To our knowledge, except as set forth below, none of the selling stockholders is a broker-dealer or an affiliate of a broker-dealer. None of the selling stockholders has had any position, office or other material relationship, within the past three years, with us or with any of our predecessors or affiliates.

We have assumed all shares of common stock reflected on the table will be sold from time to time in the offering covered by this prospectus. Because the selling stockholders may offer all or any portion of the shares of common stock listed in the table below, no estimate can be given as to the amount of those shares of common stock covered by this prospectus that will be held by the selling stockholders upon the termination of the offering.

Selling Stockholder	Number of Shares Beneficially Owned Before Offering	Number of Shares Offered [1]	Number of Shares Beneficially Owned After Offering	Percentage of Shares Beneficially Owned After Offering [2]
Armistice Capital, LLC [3]	1,367,037 [4]	1,171,876	290,000 [5]	7.91%
Intracoastal Capital, LLC [6]	481,237 [7]	390,626	164,450 [8]	4.69%
Noam Rubinstein [9]	32,222	17,456	14,766	*
Craig Schwabe [9]	3,452	1,870	1,582	*
Michael Vasinkevich [9]	65,595	35,537	30,058	*
Charles Worthman [9]	554	554	469	*

* Less than 1%.

(1) Represents shares issuable upon exercise of outstanding warrants. See "Prospectus Summary — The Offering."

(2) Based on 1,801,427 shares of common stock outstanding as of August 9, 2024, as adjusted to assume the cash exercise of the warrants and the sale of all shares offered hereby, or a total of 3,363,929 shares.

(3) The securities are directly held by Armistice Capital Master Fund Ltd., a Cayman Islands exempted company (the "Master Fund"), and may be deemed to be beneficially owned by: (i) Armistice Capital, LLC ("Armistice Capital"), as the investment manager of the Master Fund; and (ii) Steven Boyd, as the Managing Member of Armistice Capital. The warrants are subject to a beneficial ownership limitation, which such limitation restricts the Selling Stockholder from exercising that portion of the warrants that would result in the Selling Stockholder and its affiliates owning, after exercise, a number of shares of common stock in excess of the beneficial ownership limitation. The address of Armistice Capital Master Fund Ltd. is c/o Armistice Capital, LLC, 510 Madison Avenue, 7th Floor, New York, NY 10022.

(4) Consists of 44,000 shares held by Armistice Capital, LLC, 151,161 currently issuable shares held in abeyance, and 1,171,876 shares underlying the warrants held by the selling stockholders being registered pursuant to this Registration Statement without regard to any limitations on exercise. Does not include 94,839 shares held in abeyance subject to a beneficial ownership limitation of 9.99%, and 38,813 shares issuable upon the exercise of presently exercisable warrants subject to a beneficial ownership limitation of 4.99%, which such limitations restrict the selling stockholder from exercising that portion of the warrants that would result in the selling stockholder and its affiliates owning, after exercise, a number of shares of common stock in excess of the beneficial ownership limitation.

(5) Consists of 44,000 shares held by Armistice Capital, LLC and 246,000 currently issuable shares held in abeyance. Does not include 38,813 shares issuable upon the exercise of presently exercisable warrants subject to a beneficial ownership limitation of 4.99%, which such limitations restrict the selling stockholder from exercising that portion of the warrants that would result in the selling stockholder and its affiliates owning, after exercise, a number of shares of common stock in excess of the beneficial ownership limitation.

(6) Mitchell P. Kopin ("Mr. Kopin") and Daniel B. Asher ("Mr. Asher"), each of whom are managers of Intracoastal Capital LLC ("Intracoastal"), have shared voting control and investment discretion over the securities reported herein that are held by Intracoastal. As a result, each of Mr. Kopin and Mr. Asher may be deemed to have beneficial ownership (as determined under Section 13(d) of the Exchange Act) of the securities reported herein that are held by Intracoastal.

(7) Consists of 78,000 shares held by Intracoastal, 12,611 shares issuable upon the exercise of presently exercisable warrants, and 390,626 shares underlying the warrants held by the selling stockholders being registered pursuant to this Registration Statement without regard to any limitations on exercise. Does not include 24,526 shares issuable upon the exercise of presently exercisable warrants subject to a beneficial ownership limitation of 4.99%, and 49,313 shares held in abeyance subject to a beneficial ownership limitation of 4.99%, which such limitations restrict the selling stockholder from exercising that portion of the warrants or receiving such shares held in abeyance that would result in the selling stockholder and its affiliates owning, after exercise, a number of shares of common stock in excess of the beneficial ownership limitation.

(8) Consists of 78,000 shares held by Intracoastal, 37,137 shares issuable upon the exercise of presently exercisable warrants, and 49,313 currently issuable shares held in abeyance.

(9) Each of Messrs. Rubinstein, Schwab, Vasinkevich, and Worthman are affiliated with H.C. Wainwright & Co., LLC, a registered broker dealer with a registered address of H.C. Wainwright & Co., LLC, 430 Park Ave, 3rd Floor, New York, NY 10022, and has sole voting and dispositive power over the securities held. The number of shares beneficially owned prior to this offering consist of shares of common stock issuable upon exercise of warrants received as compensation in connection with offerings consummated

by us in November 2023, March 2024, and August 2024. The number of shares beneficially owned after this offering consist of shares of common stock issuable upon exercise of warrants received as compensation in connection with the offering consummated by us in March 2024. Messrs. Rubinstein, Schwab, Vasinkevich, and Worthman acquired these warrants in the ordinary course of business and, at the time the warrants were acquired, had no agreement or understanding, directly or indirectly, with any person to distribute such securities.

PLAN OF DISTRIBUTION

The selling stockholders, which as used herein includes donees, pledgees, transferees or other successors-in-interest selling shares of common stock or interests in shares of common stock received after the date of this prospectus from a selling stockholder as a gift, pledge, partnership distribution or other transfer, may, from time to time, sell, transfer or otherwise dispose of any or all of their shares of common stock covered by this prospectus on any stock exchange, market or trading facility on which the shares of common stock are traded or in private transactions. These dispositions may be at fixed prices, at prevailing market prices at the time of sale, at prices related to the prevailing market price, at varying prices determined at the time of sale, or at negotiated prices.

The selling stockholders may use any one or more of the following methods when disposing of the shares of common stock:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- short sales effected after the date the registration statement of which this prospectus is a part is declared effective by the SEC;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- broker-dealers may agree with the selling stockholders to sell a specified number of such shares at a stipulated price per share;
- the in-kind distribution of the shares by an investment fund to its limited partners, members or other equity holders;
- a combination of any such methods of sale; and
- any other method permitted by applicable law.

The selling stockholders may sell all, some or none of the shares of common stock covered by this prospectus. If sold under the registration statement of which this prospectus forms a part, the shares of common stock will be freely tradeable in the hands of persons other than our affiliates that acquire such shares.

The selling stockholders may, from time to time, pledge or grant a security interest in some or all of the shares of common stock owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of common stock, from time to time, under this prospectus, or under an amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act of 1933, as amended (the “Securities Act”), amending the list of selling stockholders to include the pledgee, transferee or other successors in interest as a selling stockholder under this prospectus. The selling stockholders also may transfer the shares of common stock in other circumstances, in which case the transferees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

In connection with the sale of our common stock or interests therein, the selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the common stock in the course of hedging the positions it assumes. To the extent permitted by applicable securities laws, the selling stockholders may also sell shares of our common stock short and deliver these securities to close out their short positions, or loan or pledge the common stock to broker-dealers that in turn may sell these securities. The selling stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares of common stock offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The aggregate proceeds to the selling stockholders from the sale of the common stock offered by the selling stockholders will be the purchase price of the common stock less discounts or commissions, if any. The selling stockholders reserve the right to accept and, together with their agents from time to time, to reject, in whole or in part, any proposed purchase of common stock to be made directly or through agents. We will not receive any of the proceeds from this offering.

The selling stockholders also may resell all or a portion of the shares of common stock in open market transactions in reliance upon Rule 144 under the Securities Act, provided that the selling stockholders meet the criteria and conforms to the requirements of that rule.

The selling stockholders and any underwriters, broker-dealers or agents that participate in the sale of the common stock or interests therein may be "underwriters" within the meaning of Section 2(a)(11) of the Securities Act. Any discounts, commissions, concessions or profit any selling stockholder earns on any resale of the shares of common stock covered by this prospectus may be underwriting discounts and commissions under the Securities Act. Selling stockholders who are "underwriters" within the meaning of Section 2(a)(11) of the Securities Act will be subject to the prospectus delivery requirements of the Securities Act.

To the extent required, the shares of our common stock to be sold, the names of the selling stockholders, the respective purchase prices and public offering prices, the names of any agents, dealer or underwriter, any applicable commissions or discounts with respect to a particular offer will be set forth in an accompanying prospectus supplement or, if appropriate, a post-effective amendment to the registration statement that includes this prospectus.

In order to comply with the securities laws of some states, if applicable, the common stock may be sold in these jurisdictions only through registered or licensed brokers or dealers. In addition, in some states the common stock may not be sold unless it has been registered or qualified for sale or an exemption from registration or qualification requirements is available and is complied with.

We have advised the selling stockholders that the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of shares in the market and to the activities of the selling stockholders and their affiliates. In addition, to the extent applicable we will make copies of this prospectus (as it may be supplemented or amended from time to time) available to the selling stockholders for the purpose of satisfying the prospectus delivery requirements of the Securities Act. The selling stockholders may indemnify any broker-dealer that participates in transactions involving the sale of the shares against certain liabilities, including liabilities arising under the Securities Act.

We have agreed to indemnify the selling stockholders against certain liabilities, including liabilities under the Securities Act and state securities laws, relating to the registration of the shares offered by this prospectus.

LEGAL MATTERS

The validity of the issuance of the common stock offered by us in this offering will be passed upon for us Harter Secrest & Emery LLP, Rochester, NY.

EXPERTS

The audited consolidated financial statements of Bone Biologics Corporation as of December 31, 2023 and 2022, and for each of the years then ended included in our annual report in the 2023 Form 10-K, are incorporated by reference into this prospectus and in the registration statement and have been so incorporated in reliance upon the report of Weinberg & Company, P.A., an independent registered public accounting firm (the report on the consolidated financial statements contains an explanatory paragraph regarding our ability to continue as a going concern), incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" information into this document, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is an important part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information.

We incorporate by reference the documents listed below and any future filings made with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act made on or after (i) the date of the initial registration statement and prior to effectiveness of the registration statement, and (ii) the date of this prospectus and prior to the completion or the termination of the offering of the securities described in this prospectus (other than information in such filings that was "furnished," under applicable SEC rules, rather than "filed"). We incorporate by reference the following documents or information that we have filed with the SEC:

- our Annual Report on Form 10-K for the year ended December 31, 2023, filed with the SEC on February 21, 2024;
- our Quarterly Reports on Form 10-Q for the periods ended March 31, 2024, filed with the SEC on May 14, 2024, and June 30, 2024, filed with the SEC of August 9, 2024;
- our Current Reports on Form 8-K filed with the SEC on January 2, 2024, January 10, 2024, January 11, 2024, January 12, 2024, March 1, 2024, March 6, 2024, March 15, 2024, and August 2, 2024; and
- The description of the Common Stock incorporated by reference to our Registration Statement on Form 8-A that was filed with the SEC on October 8, 2021, Exhibit 4.5 to Amendment No. 1 to our Annual Report for the fiscal year ended December 31, 2022 on Form 10-K/A filed with the SEC on November 20, 2023, and any amendment or report filed for the purpose of updating such description.

To obtain copies of these filings, see "Where You Can Find More Information" in this prospectus. Nothing in this prospectus shall be deemed to incorporate information furnished, but not filed, with the SEC, including pursuant to Item 2.02 or Item 7.01 of Form 8-K and any corresponding information or exhibit furnished under Item 9.01 of Form 8-K.

Information in this prospectus supersedes related information in the documents listed above and information in subsequently filed documents supersedes related information in both this prospectus and the incorporated documents.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the periodic reporting requirements of the Exchange Act, and we will file periodic reports, proxy statements and other information with the SEC. These periodic reports, proxy statements and other information are available at www.sec.gov. We maintain a website at https://www.bonebiologics.com. We have not incorporated by reference into this prospectus the information contained in, or that can be accessed through, our website, and you should not consider it to be a part of this prospectus. You may access our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act with the SEC free of charge at our website as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. You may also request a copy of these filings (other than exhibits to these documents unless the exhibits are specifically incorporated by reference into these documents or referred to in this prospectus), at no cost, by writing us at 2 Burlington Woods Drive, Suite 100, Burlington, MA 01803 or contacting us at (781) 552-4452.

We have filed with the SEC a registration statement under the Securities Act relating to the offering of these securities. The registration statement, including the attached exhibits, contains additional relevant information about us and the securities. This prospectus does not contain all of the information set forth in the registration statement. You may review a copy of the registration statement and the documents incorporated by reference herein through the SEC's website at www.sec.gov.

BONE BIOLOGICS CORPORATION

1,617,919 Shares of Common Stock Offered by the Selling Stockholders

Prospectus

, 2024

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following table sets forth all expenses, other than the Placement Agent fees, payable by the registrant in connection with the sale of the securities being registered. All the amounts shown are estimates except the SEC registration fee.

	Amount to be paid
SEC registration fee	$ 395
Accounting fees and expenses	$ 5,000
Legal fees and expenses	$ 10,000
Total	$ 15,395

Item 15. Indemnification of Directors and Officers.

Section 102 of the Delaware General Corporation Law ("DGCL") permits a corporation to eliminate the personal liability of directors of a corporation to the corporation or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his duty of loyalty to us or our stockholders, acted or failed to act (an omission) not in good faith or that involved intentional misconduct or a knowing violation of law, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of the DGCL, or obtained an improper personal benefit. Our Amended and Restated Certificate of Incorporation, as amended ("Certificate of Incorporation") provides that no director of the Company shall be personally liable to it or its stockholders for monetary damages for any breach of fiduciary duty as a director, notwithstanding any provision of law imposing such liability, except to the extent that the DGCL prohibits the elimination or limitation of liability of directors for breaches of fiduciary duty.

Section 145 of the DGCL provides that a corporation has the power to indemnify a director, officer, employee, or agent of the corporation, or a person serving at the request of the corporation for another corporation, partnership, joint venture, trust or other enterprise in related capacities against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he was or is a party or is threatened to be made a party to any threatened, ending or completed action, suit or proceeding by reason of such position, if such person acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal action or proceeding, had no reasonable cause to believe his conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

Our Certificate of Incorporation and Amended and Restated Bylaws provide indemnification for our directors and officers to the fullest extent permitted by the DGCL. We will indemnify each person who was or is a party or threatened to be made a party to any threatened, pending or completed action, suit or proceeding (other than an action by or in the right of us) by reason of the fact that he or she is or was, or has agreed to become, a director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (all such persons being referred to as an "Indemnitee"), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding and any appeal therefrom, if such Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, and, with respect to any criminal action or proceeding, he or she had no reasonable cause to believe his or her conduct was unlawful. Our Certificate of Incorporation and Amended and Restated Bylaws provide that we will indemnify any Indemnitee who was or is a party to an action or suit by or in the right of us to procure a judgment in our favor by reason of the fact that the Indemnitee is or was, or has agreed to become, a director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise, or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees) and, to the extent permitted by law, amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding, and any appeal therefrom, if the Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, except that no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to us, unless a court determines that, despite such adjudication but in view of all of the circumstances, he or she is entitled to indemnification of such expenses. Notwithstanding the foregoing, to the extent that any Indemnitee has been successful, on the merits or otherwise, he or she will be indemnified by us against all expenses (including attorneys' fees) actually and reasonably incurred in connection therewith. Expenses must be advanced to an Indemnitee under certain circumstances.

As of the date of this prospectus, we have entered into separate indemnification agreements with each of our directors and executive officers. Each indemnification agreement provides, among other things, for indemnification to the fullest extent permitted by law and our Certificate of Incorporation against any and all expenses, judgments, fines, penalties and amounts paid in settlement of any claim. The indemnification agreements provide for the advancement or payment of all expenses to the indemnitee and for the reimbursement to us if it is found that such indemnitee is not entitled to such indemnification. In addition, we have obtained a general liability insurance policy that covers certain liabilities of directors and officers of our corporation arising out of claims based on acts or omissions in their capacities as directors or officers.

Item 16. Exhibits.

The following exhibits to this registration statement included in the Exhibit Index are incorporated by reference.

EXHIBIT INDEX

4.1	Form of New Warrant dated August 2, 2024 (incorporated by reference to Exhibit 4.1 to the Current Report on Form 8-K filed on August 2, 2024)
4.2	Form of Placement Agent Warrant dated August 2, 2024 (incorporated by reference to Exhibit 4.2 to the Current Report on Form 8-K filed on August 2, 2024)
4.3	Form of Placement Agent Warrant (November 2023) (incorporated by reference to Exhibit 4.2 to the Current Report on Form 8-K filed on November 20, 2023)
5.1*	Opinion of Harter Secrest & Emery LLP
23.1*	Consent of Independent Registered Public Accounting Firm, Weinberg & Company, P.A.
23.2*	Consent of Harter Secrest & Emery LLP (included in Exhibit 5.1)
24.1*	Power of Attorney (included in signature page hereto)
99.1	Form of Inducement Letter Agreement dated August 1, 2024 (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K filed on August 2, 2024)
107*	Filing Fee Table

* Filed herewith.

Item 17. Undertakings

The undersigned registrant hereby undertakes:

(a)(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20% change in the maximum aggregate offering price set forth in the "Calculation of Filing Fee Tables" or "Calculation of Registration Fee" table, as applicable, in the effective registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

provided, however, that the undertakings set forth in paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) above do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the SEC by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in this registration statement or are contained in a form of prospectus filed pursuant to Rule 424(b) that is part of this registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability of the registrant under the Securities Act to any purchaser, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit

to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the Town of Burlington, Commonwealth of Massachusetts, on August 12, 2024.

BONE BIOLOGICS CORPORATION

By: */s/ Jeffrey Frelick*
Name: Jeffrey Frelick
Title: Chief Executive Officer
(Principal Executive Officer)

POWER OF ATTORNEY

Each person whose signature appears below appoints Jeffrey Frelick and Deina H. Walsh, and each of them, each of whom may act without the joinder of the other, as his or her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution for him and her and in his or her name, place and stead, in any and all capacities to sign any and all amendments (including post-effective amendments) to this registration statement, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully to all intents and purposes as he might or would do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them or their or his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Jeffrey Frelick Jeffrey Frelick	Chief Executive Officer (Principal Executive Officer)	August 12, 2024
/s/ Deina H. Walsh Deina H. Walsh	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	August 12, 2024
/s/ Don R. Hankey Don R. Hankey	Director	August 12, 2024
/s/ Bruce Stroever Bruce Stroever	Director	August 12, 2024
/s/ Robert Gagnon Robert Gagnon	Director	August 12, 2024
/s/ Siddhesh Angle Siddhesh Angle	Director	August 12, 2024

Exhibit 5.1

Harter Secrest & Emery LLP

ATTORNEYS AND COUNSELORS

WWW.HSELAW.COM

August 12, 2024

Bone Biologics Corporation
2 Burlington Woods Dre., Suite 100
Burlington, MA 01803

Re: Registration Statement on Form S-3

Ladies and Gentlemen:

We have acted as counsel to Bone Biologics Corporation, a Delaware corporation (the "Company"), in connection with its filing of a Registration Statement on Form S-3, together with the exhibits thereto (the "Registration Statement") to be filed on the date hereof, with the Securities and Exchange Commission under the Securities Act of 1933, as amended (the "Securities Act"), with respect to the registration of 1,617,920 shares of the Company's common stock (the "Shares"), par value $0.001 per share, issuable upon exercise of previously issued warrants (the "Warrants"). This opinion is furnished to you at your request to enable you to fulfill the requirements of Item 601(b)(5) of Regulation S-K in connection with the filing of the Registration Statement.

For purposes of this opinion, we have with your permission made the following assumptions, in each case without independent verification: (i) the due authorization, execution and delivery of all documents by all the parties thereto; (ii) the genuineness of all signatures on all documents submitted to us; (iii) the authenticity and completeness of all documents, corporate records, certificates and other instruments (the "Records") submitted to us; (iv) that photocopy, electronic, certified, conformed, facsimile and other copies submitted to us of the Records conform to the original Records; (v) the legal capacity of all individuals executing documents; (vi) that all documents are the valid and binding obligations of each of the parties thereto, enforceable against such parties in accordance with their respective terms and that no such documents have been amended or terminated orally or in writing; (vii) that the statements contained in the certificates and comparable documents of public officials, officers and representatives of the Company and other persons on which we have relied for the purposes of this opinion are true and correct; and (viii) that at the time the Shares are issued, the Company will be validly existing and there will be sufficient Shares authorized under the Company's Amended and Restated Articles of Incorporation, as amended and then in effect, and not otherwise issued or reserved for issuance. As to all questions of fact material to this opinion, we have relied (without independent verification) upon certificates or comparable documents of officers and representatives of the Company.

Based upon, subject to and limited by the foregoing, we are of the opinion that the Shares have been duly authorized for issuance and, when issued and delivered by the Company upon valid exercise of the Warrants and against receipt of the exercise price therefor, the Shares will be validly issued, fully paid and non-assessable.

We express no opinion with respect to the effect of any law other than the law of the State of New York and the applicable provisions of the Delaware General Corporate Law as currently in effect.

This opinion letter has been prepared in accordance with the customary practice of lawyers who regularly give, and lawyers who regularly advise opinion recipients concerning, opinions of the type contained herein.

This opinion letter deals only with the specified legal issues expressly addressed herein, and you should not infer any opinion that is not explicitly addressed herein from any matter stated in this letter.

We consent to the use of this opinion as an exhibit to the Registration Statement. In giving such consent, we do not hereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act and the rules and regulations thereunder. This opinion is rendered to you as of the date hereof and we assume no obligation to advise you or any other person hereafter with regard to any change after the date hereof in the circumstances or the law that may bear on the matters set forth herein even though the changes may affect the legal analysis or legal conclusion or other matters in this letter.

Very truly yours,

/s/ Harter Secrest & Emery LLP

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in this Registration Statement on Form S-3 (Registration No. _____) of our report dated February 21, 2024, which includes an explanatory paragraph as to the Company's ability to continue as a going concern, relating to the consolidated financial statements of Bone Biologics Corporation included in its Annual Report on Form 10-K for the year ended December 31, 2023, filed with the Securities and Exchange Commission. We also consent to the reference to our firm under the caption "Experts" in such Registration Statement and related Prospectus.

/s/ Weinberg & Company, P.A.
Los Angeles, California
August 12, 2024

Exhibit 107

Calculation of Filing Fee Tables

Form S-3
(Form Type)

Bone Biologics Corporation
(Exact name of registrant as specified in its charter)

Table 1: Newly Registered Securities and Carry Forward Securities

Security Type	Security Class Title	Fee Calculation Rule	Amount Registered[(1)]	Proposed Maximum Offering Price Per Unit[(2)]	Maximum Aggregate Offering Price[(2)]	Fee Rate	Amount of Registration Fee
Equity	Common Stock, par value $0.001 per share	457(c)	1,617,919	$ 1.65	$ 2,669,567	$0.00014760	$ 395
	Total Offering Amounts				**$ 2,669,567**		**$ 395**
	Net Fee Due						**$ 395**

(1) Pursuant to Rule 416 under the Securities Act, the securities being registered hereunder include such indeterminate number of additional shares of common stock as may be issued after the date hereof as a result of stock splits, stock dividends or similar transactions.

(2) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(c) under the Securities Act of 1933, as amended. The price per share and aggregate offering price are based on the average of the high ($1.835) and low ($1.46) prices of the common stock as reported on the Nasdaq Stock Market on August 8, 2024.